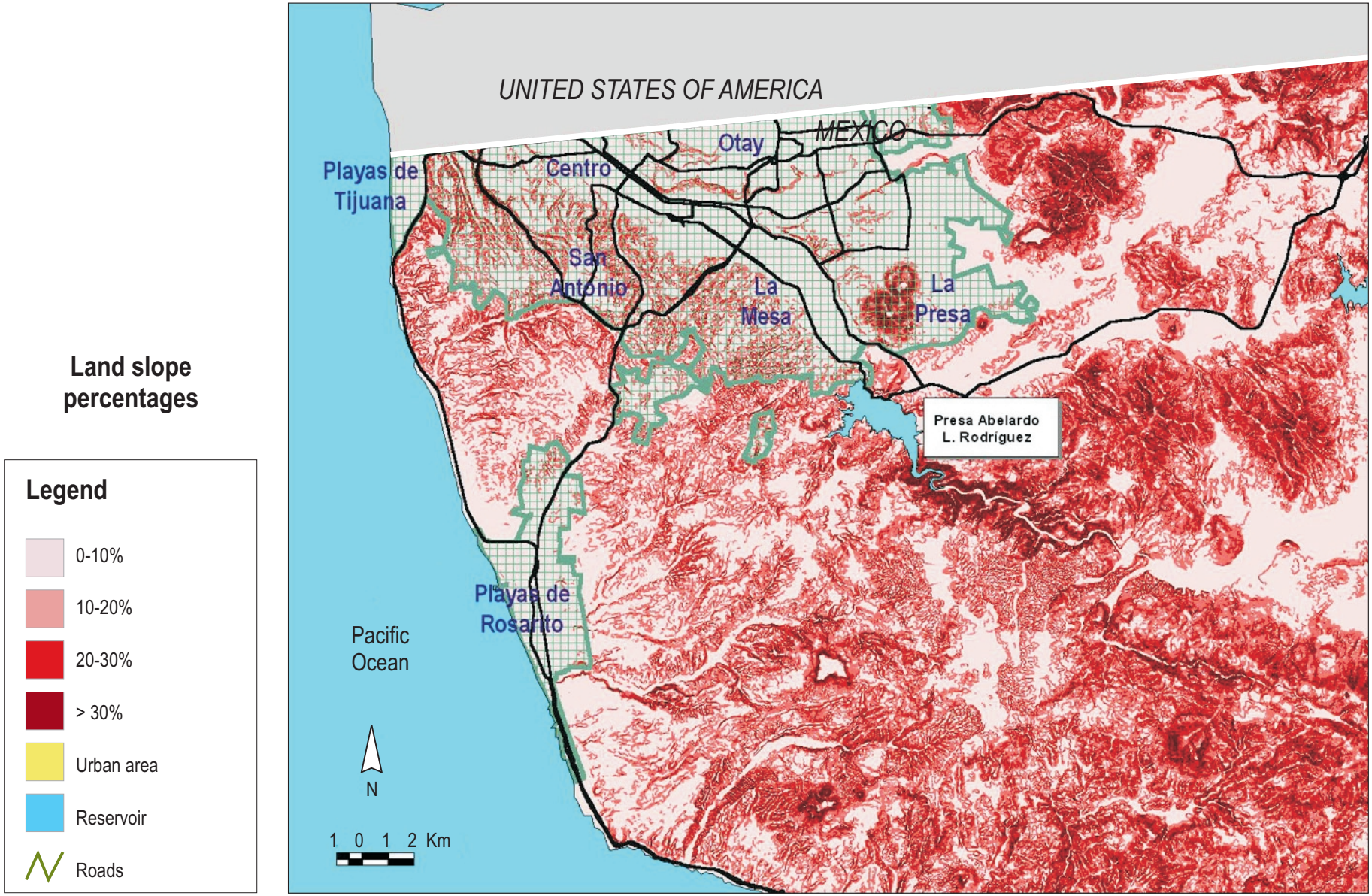

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Figure 2-3
Land slope classifications

2.1.4 Hydrography

According to the classification of the National Commission of Water, the area of study is located within the hydrographic region No. 1 RH1 in Baja California.

Tijuana does not have rivers with permanent flows and the principal intermittent current is the Tijuana River, which originates in Sierra de Juárez and flows southeast-northwest eventually flowing into the Pacific Ocean, in territory belonging to the United States via the estuary of the Tijuana River. The main affluents of the Tijuana River are the Tecate / Alamar River and the streams of Hechicera, Calabazas and Palmas.

In Playas de Rosarito the main surface bodies of water are the Playas de Rosarito and Guaguatay Streams, which flow only during periods of rain and are intermittent.

Figure 2-4 shows 29 micro basins located throughout the city of Tijuana and the 3 colonias (neighborhood) of Playas de Rosarito. In Tijuana, some streams flow directly to the main channel of the Tijuana River and are located in an area with advanced states of urbanization. Other streams, such as Playas Sur, the Sainz, Cueros de Venado and the Matanuco, present a low state of development, even though they are areas in which future urban areas are expected to develop. The rest of the streams flow directly into the Pacific Ocean.

The three basins in the Playas de Rosarito area are: Plan Libertador, Guaguatay, and Playas de Rosarito. Although the level of occupation around these basins is moderate, the future expansions of urban areas are expected to increase in the occupation of the above-mentioned basins.

Table 2-1 shows the basins in the urban areas of Tijuana and Playas de Rosarito.

Table 2-1
Boundaries of the Basins in the Study Area

Code	Name of the stream	Area in square meters	Hectares
15	Agua Caliente	12,617,072	1,262
16	Aguaje de la Tuna	15,489,026	1,549
11	Camino Verde	7,159,156	716
20	Cañón del Sol	4,281,108	428
5	Cerro Colorado	5,837,542	584
30	Cueros de Venado	34,367,827	3,437
2	El Florido	20,418,671	2,042
7	El Gato Bronco	8,732,584	873
21	El Matadero	17,290,795	1,729
3	El Sainz	20,255,203	2,026
18	Emiliano Zapata	17,485,210	1,749
28	Guaguatay	14,105,315	1,411
32	Sin nombre	75,794,161	7,579
6	Guaycura Presidentes	4,883,423	488
8	La Mesa	7,653,144	765
14	La Pechuga	7,100,653	710
31	Los Laureles	12,162,059	1,216
1	Matanuco	168,239,773	16,824
4	México Lindo	5,293,735	529
17	Pastejé o Aviación	22,801,317	2,280

Table 2-1
Boundaries of the Basins in the Study Area

Code	Name of the stream	Area in square meters	Hectares
27	Plan Libertador	32,523,754	3,252
23	Playas Norte	7,453,976	745
24	Playas Sur	9,568,222	957
29	Playas de Rosarito	50,483,092	5,048
25	San Antonio de Los Buenos	41,873,176	4,187
26	San Antonio del Mar	23,089,113	2,309
9	Sánchez Taboada	5,605,933	561
10	Sistema Alamos	3,671,161	367
19	Sistema Centro	15,611,323	1,561
13	Tributario Alamar right	43,968,986	4,397
12	Tributarios Alamar left	39,268,348	3,927

Source: Comisión Nacional del Agua, 1999.

2.1.5 Vegetation

The predominant vegetation in Tijuana consists of scrub and chaparral, located mainly in the hills, streams and plateaus. An important aspect of this type of flora is that it operates in a natural manner against the erosion. There also exists secondary vegetation consisting mainly of shrubbery.

In Playas de Rosarito the predominant vegetation is scrub, chaparral and some induced fields.

2.1.6 Geology and Hydrogeology

The origins of the soil materials in the region are principally sedimentary, alluvial and volcanic. These materials are generally slightly consolidated. The pronounced slopes in the region, present a series of risks of slides. Figure 2-5 illustrates the predominant geological characteristics and Figure 2-6 illustrates the lithologic characteristics of the area of study.

The hydrogeological information of the study area is very limited. The most important aquifers are located in the Tijuana and Alamar river basins, as well as the coastal area in the Playas de Rosarito area, extending to the municipal limits of Ensenada. These aquifers are unconfined and they generally present water quality with problematic elements, as described in detail in Section 2.6.1 and 7.

Elevation above average sea level in meters

Legend

- 0-99
- 100-199
- 200-299
- 300-399
- 400-499
- 500-599
- 600-699
- 700-799
- >800
- Sub basin delineation

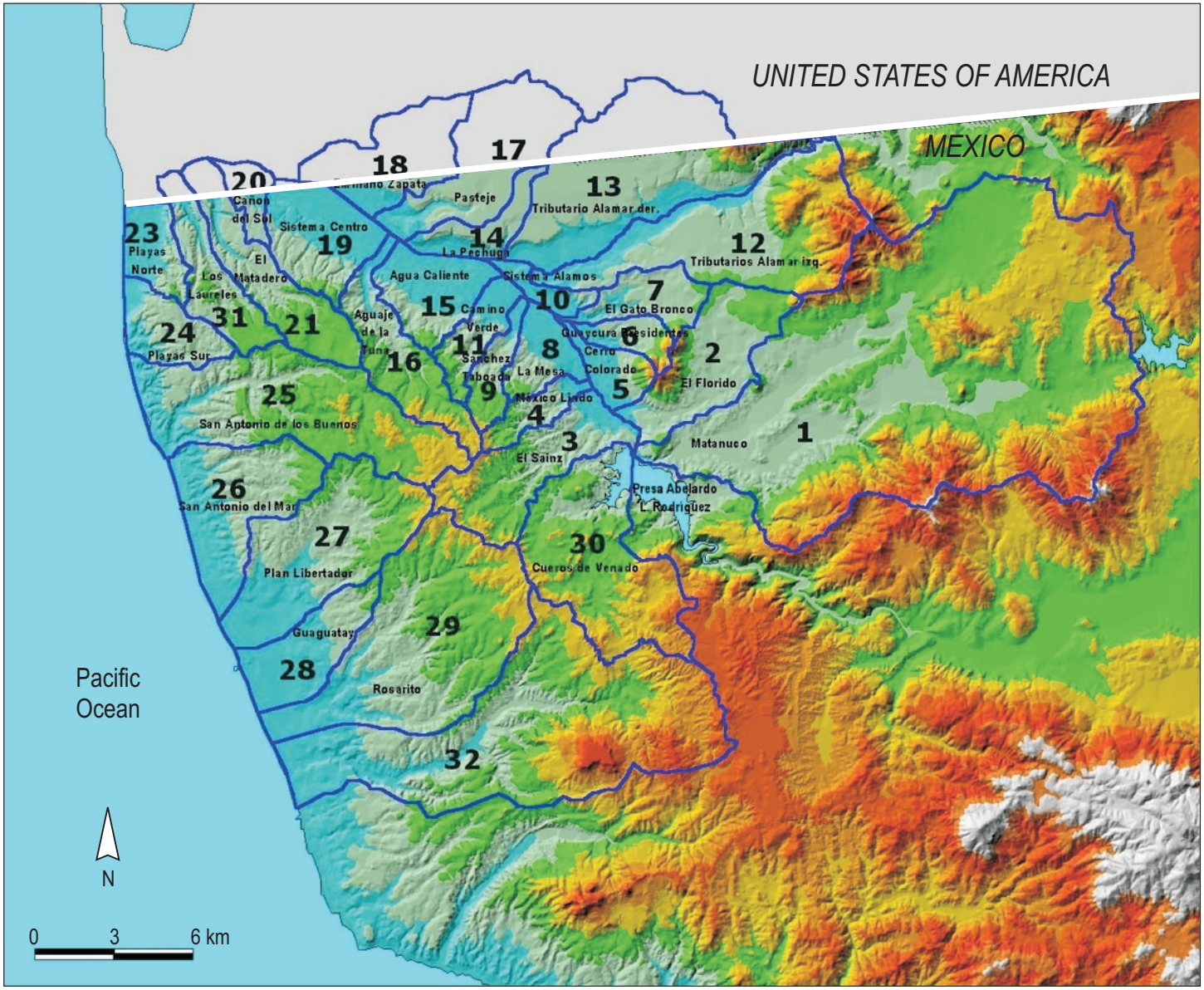

Figure 2-4
Basin delineation

Geologic Characteristics

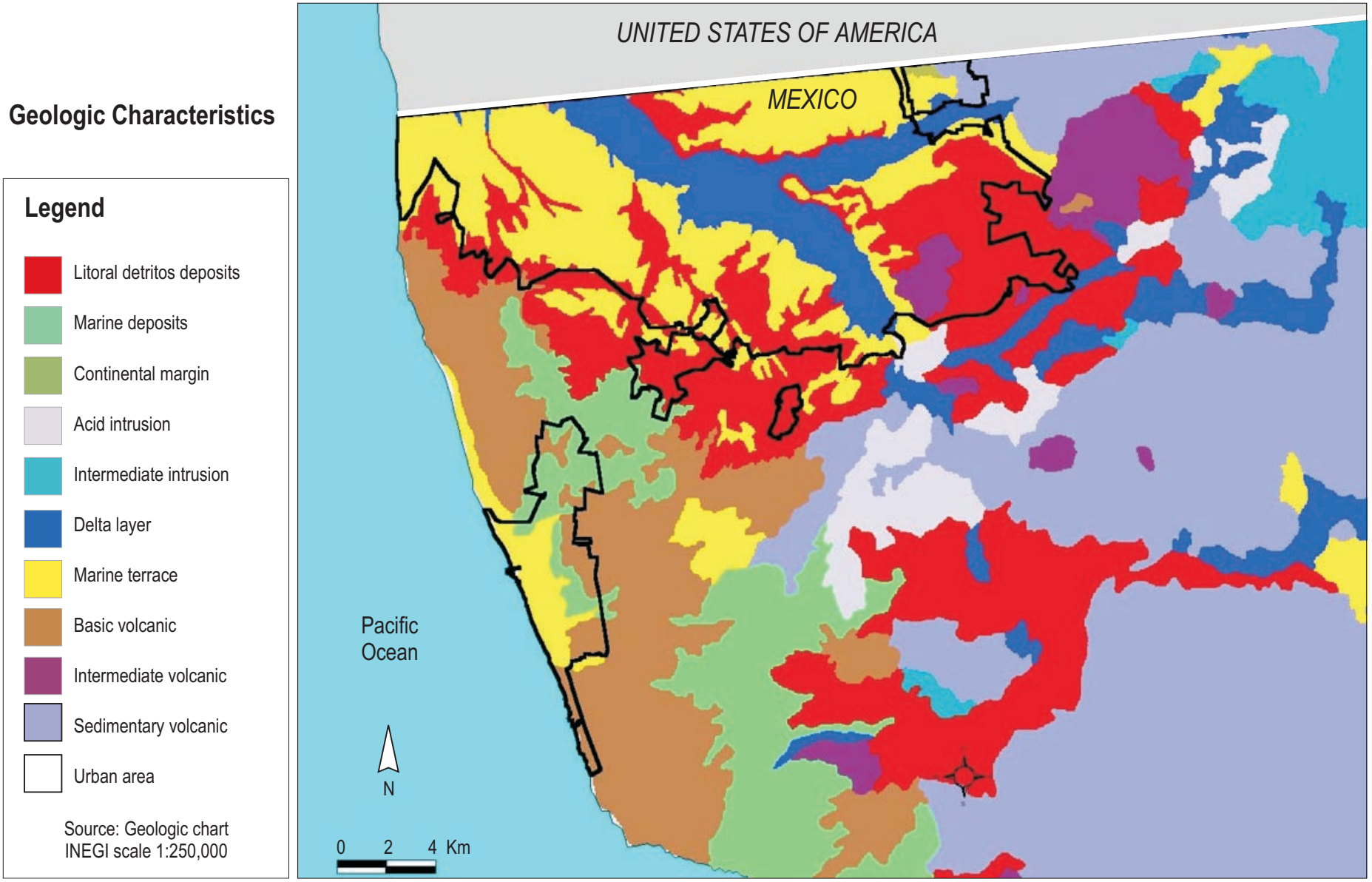

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Figure 2-5
Predominant geological characteristics

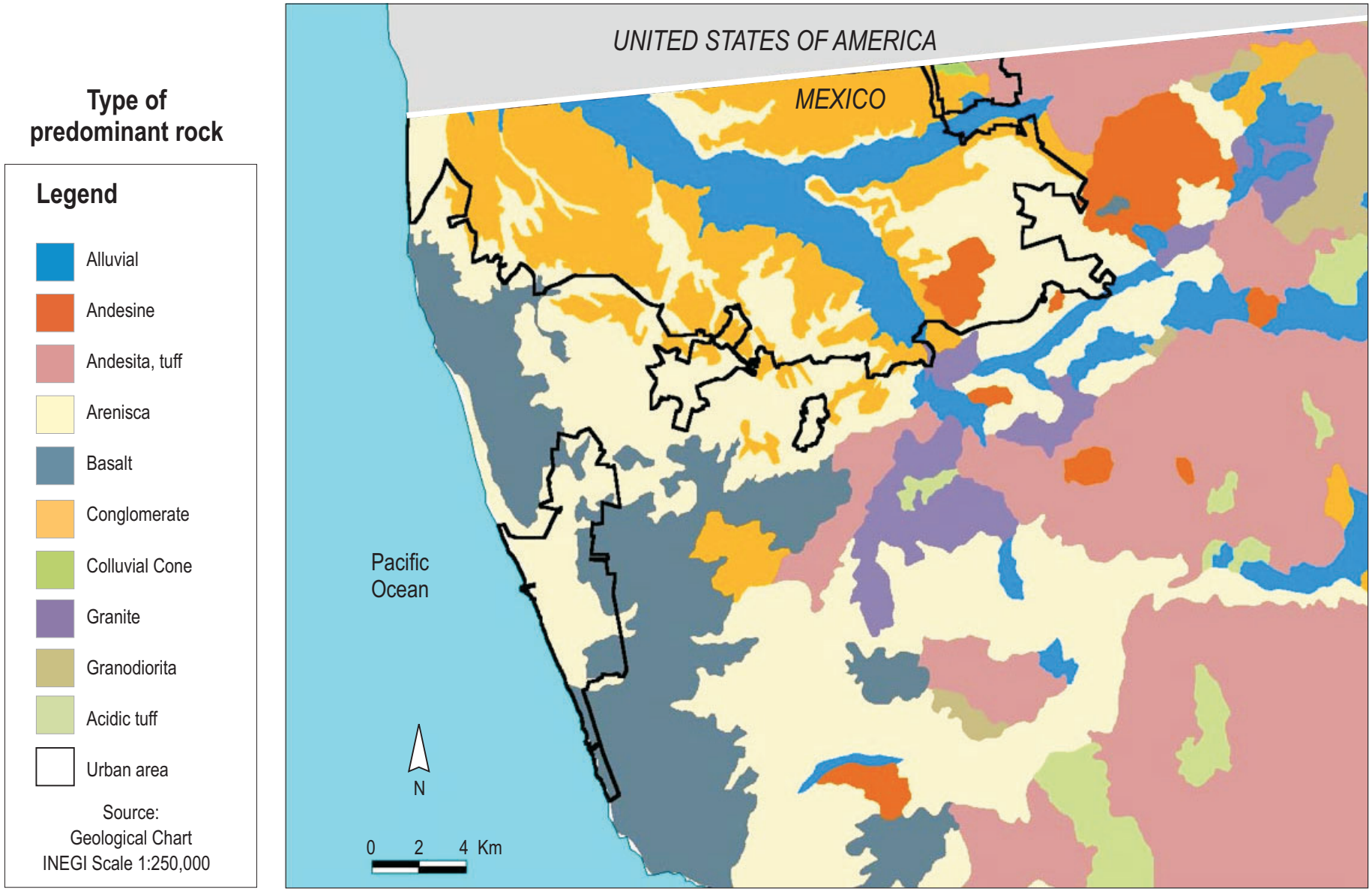

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Figure 2-6
Predominant lithologic characteristics